

WHAT IS CLAIMED IS:

1. An IC comprising;

an internal circuit;

5 a debug I/F circuit for debugging the internal circuit from externally; and

an authentication circuit which is provided between the debug I/F circuit and a debug terminal for connecting outside, and for transmitting a transmission key from the debug terminal to outside, and authenticating from a signal received from the debug terminal and said transmission key to enable operation of the debug I/F circuit.

2. The IC according to claim 1, wherein the authentication circuit cancels a reset signal to the debug I/F circuit for enabling the operation.

3. The IC according to claim 1, wherein the authentication circuit generates an authentication key that is encrypted the transmission key by a predetermined key, and collates said reception signal with the authentication key.

4. The IC according to claim 1, wherein the authentication circuit time-waits the operation enabling.

5. The IC according to claim 1, wherein the authentication circuit generates the transmission key by random numbers.

6. An electronic device mounted with an IC, said IC comprising;

an internal circuit;

5 a debug I/F circuit for debugging the internal circuit from externally; and

an authentication circuit which is provided between the debug I/F circuit and a debug terminal for connecting outside, and for transmitting a transmission key from the debug terminal to outside, and collating the signal received from the debug terminal with the transmission key to enable operation of the debug I/F circuit.

7. The electronic device according to claim 6, wherein the authentication circuit cancels the reset signal to the debug I/F circuit for enabling the operation.

8. The electronic device according to claim 6, wherein the authentication circuit generates the authentication key that is encrypted the transmission key by a predetermined key, and collates the reception signal with the authentication key.

9. The electronic device according to claim 6, wherein the authentication circuit time-awaits the operation enabling.

10. The electronic device according to claim 6, wherein the authentication circuit forms the transmission key by the random

numbers.

11. A debugging method for utilizing a debug I/F circuit
and debugging an internal circuit from externally, comprising
5 the steps of:

transmitting a transmission key to externally when the
debug I/F circuit is activated; and

authenticating the signal received from externally and
the transmission key to enable operation of the debug I/F
10 circuit.

12. The debugging method according to claim 11, wherein the
authentication step includes a step of canceling a reset signal
to the debug I/F circuit for enabling the operation.

13. The debugging method according to claim 11, wherein the
authentication step includes;

a step of generating a authentication key that is
encrypted the transmission key by a predetermined key, and

20 a step of collating the received signal with the
authentication key.

14. The debugging method according to claim 11, wherein the
authentication step has a step of time-awaiting the operation
25 enabling.

15. The debugging method according to claim 11, wherein the

transmission step has a step of forming the transmission key by the random numbers.

16. The debugging method according to claim 11, wherein
5 further comprising;

a step of receiving the transmission key and encoding by a predetermined key, and transmitting the received signal with a discrimination device provided between a debugger and the debug I/F circuit.

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17. A debugger for debugging an IC, the IC comprising an internal circuit; a debug I/F circuit for debugging the internal circuit; and an authentication circuit which is provided between the debug I/F circuit and the debug terminal, said
15 debugger comprising;

a debug unit for debugging said LSI; and

a discrimination device which is provided between said debug unit and said debug I/F circuit, and for receiving a transmission key from said authentication circuit, encrypting
20 said transmission key by a predetermined key, and transmitting the encrypted key to said authentication circuit to enable debugging of said IC by said debug unit.